

Mr Steve Vigar
Planning Applications Team Leader
Planning Section | Directorate of Economic Growth and Neighbourhood Services

Reading Borough Council
Civic Offices, Level 1 South
Bridge Street
Reading
RG1 2LU

Dear Steve,

Date 13 / 03 / 2024

Station Hill Reading - Planning Permission REF. 192032 (Phase 2)
Condition 33: Drainage Scheme

We write to confirm that the technical performance of the SuDs measures implemented as part of the Phase 2 development of Station Hill is in line with the Drainage Strategy submitted and as discharged in January 2022.

The podium arrangement has developed over time – across subsequent Non-material Amendment submissions and with the refinement of the product specific installation drawings. The result is a reduction in the plan extent of the podium attenuation due to:

- Updates to the planters and external uses changing the distribution of attenuation storage across the podium.
- Storage volume contained within cellular tanks displaced to an area within the general filling / land raise area to the northwest of the site.
- Preference to utilise channels drains and concealed pipes to convey stormwater across the podium has reduced the need for attenuation crates over and above their attenuation function.

The affect of these changes can be seen when comparing the storage volume solely within the cellular attenuation system which reveals a 28% reduction in total volume:

Drainage Strategy: Permavoid / cellular storage = 238m³

Construction issue: Permavoid / cellular storage = 171m³

Compliance with the approved drainage strategy can be seen when comparing the various discharge rates across the development, reference enclosed revisions of drawing SHRN-RAM-S2-00-DR-C-0120 - NORTH SITE PHASE 2 PROPOSED SURFACE WATER DRAINAGE LAYOUT GROUND FLOOR – PODIUM:

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Ref

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Company No: 03659970
Registered office:
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London
SE1 8NW

	Drainage Strategy – Rev T02	Construction issue – Rev C06
Garrard Street	Permavoid outlet 01 = 12.3l/s	Permavoid outlet 01 = 12.3l/s
to Station Hill	Permavoid outlet 02 = 11.3l/s	Permavoid outlet 03 = 2.0l/s
		SWMH 08 = 9.0l/s
Restriction / performance	Ref 4.1 of strategy = 23.6l/s	Sum of outlets = 23.3l/s

To conclude, whilst the arrangement of the attenuation elements has evolved over time the general philosophy, materials, final outfall locations from the site and discharge rates are unaffected and the overall performance and characteristics of the solutions remain as per the original Drainage Strategy document.

Yours sincerely



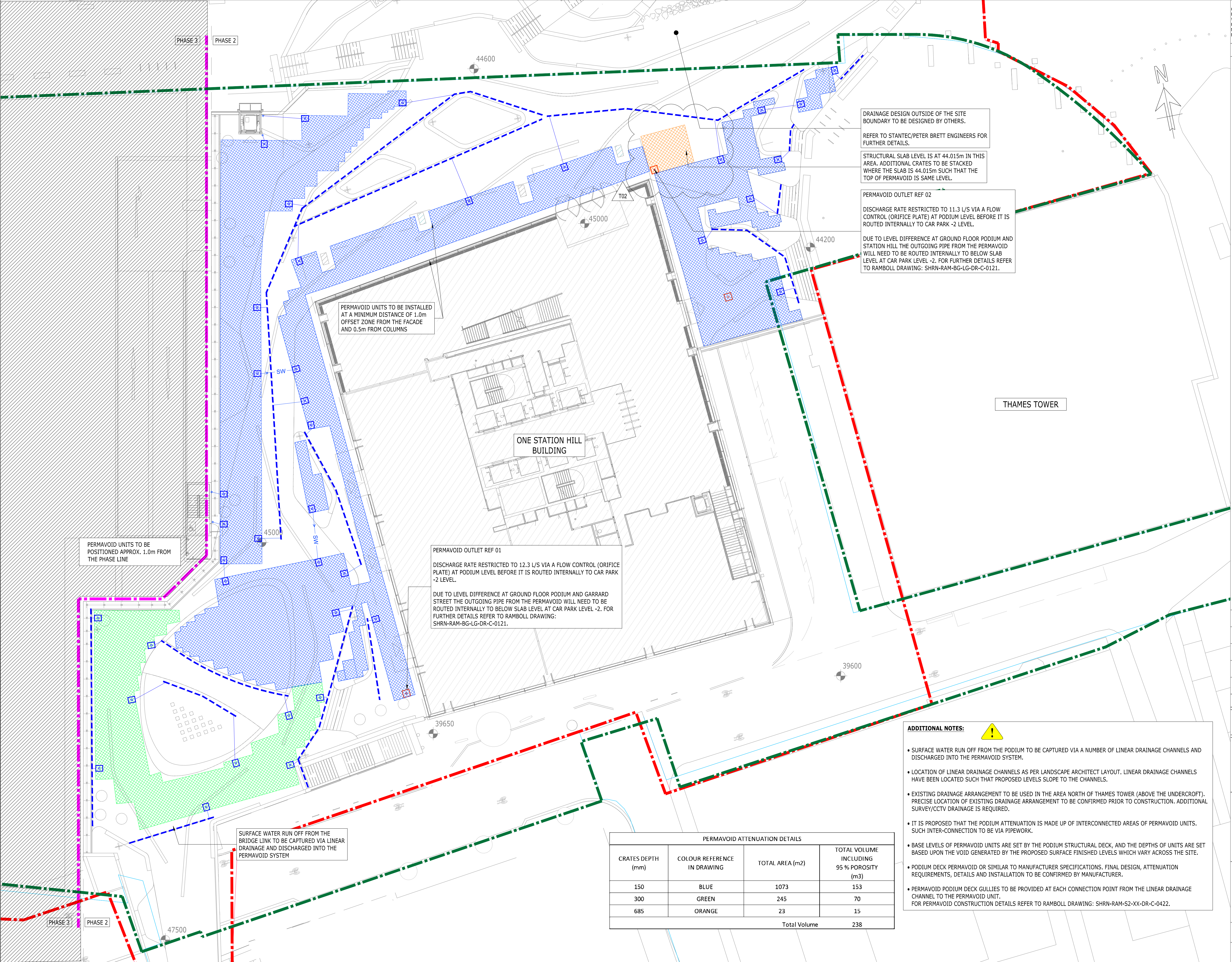
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 4. THIS DRAWING IS BASED ON,
 - LANDSCAPE ARCHITECT, LDA DRAWING: 'SHRN-LDA-S2-ZZ-PL-L-100-101' REVISION T03, STAGE 4A UPDATE, DATED ON 29.03.2021
 - CRTKL PERMAVOID CONSTRAINTS PLAN DIAGRAM DRAWING: SHRN-CRL-S2-00-DR- SK- 8001, RECEIVED ON 05.02.2020.
 - CRTKL LEVEL-0 PLAN DRAWING : SHRN-CRL-S2-P2-DR-A-1360, REVISION T01 DATED 05.06.2020.
 - GENSLER LOWER GROUND LAYOUT: SHRN-GEN-BG-P2-DR-A-0108, REVISION T01, DATED 05.06.2020.
 - HOARE LEA ENGINEER DRAWINGS: SHRN-HL-PN-00-DR-P-520-0005 AND SHRN-HL-PN-00-GA-P-520-0006, REVISION T01 DATED 05.06.2020.

- KEY:
- SITE OWNERSHIP BOUNDARY
 - - - SITE BOUNDARY
 - - - PHASES LINE
 - TWSW --- EXISTING THAMES WATER SEWER
 - SW --- PROPOSED SURFACE WATER PIPE
 - - - LINEAR DRAINAGE CHANNEL
 - + RAIN WATER POINT
 - PERMAVOID PODIUM DIFFUSER CHAMBER
 - PERMAVOID PODIUM DECK GULLY
 - ONE STATION HILL
 - PERMAVOID CRATES, 300mm THICKNESS
 - PERMAVOID CRATES, 150mm THICKNESS
 - PERMAVOID CRATES, 685mm THICKNESS

T02	SUBMITTED FOR PLANNING	13.09 2021	HK GC	EK
T01	D2 - STAGE 4 ISSUE SUITABLE FOR TENDER	03.06 2020	MM GC	PC
P03	STAGE 4 DRAFT ISSUE	15.05. 2020	MESMS GC	PC
P02	SITE BOUNDARY UPDATED	11.12 2019	MES MS	EK
P01	STAGE 3 ISSUE	15.11. 2019	MES MS	EK
Rev	Description	Date	By Chk	App

STAGE 4

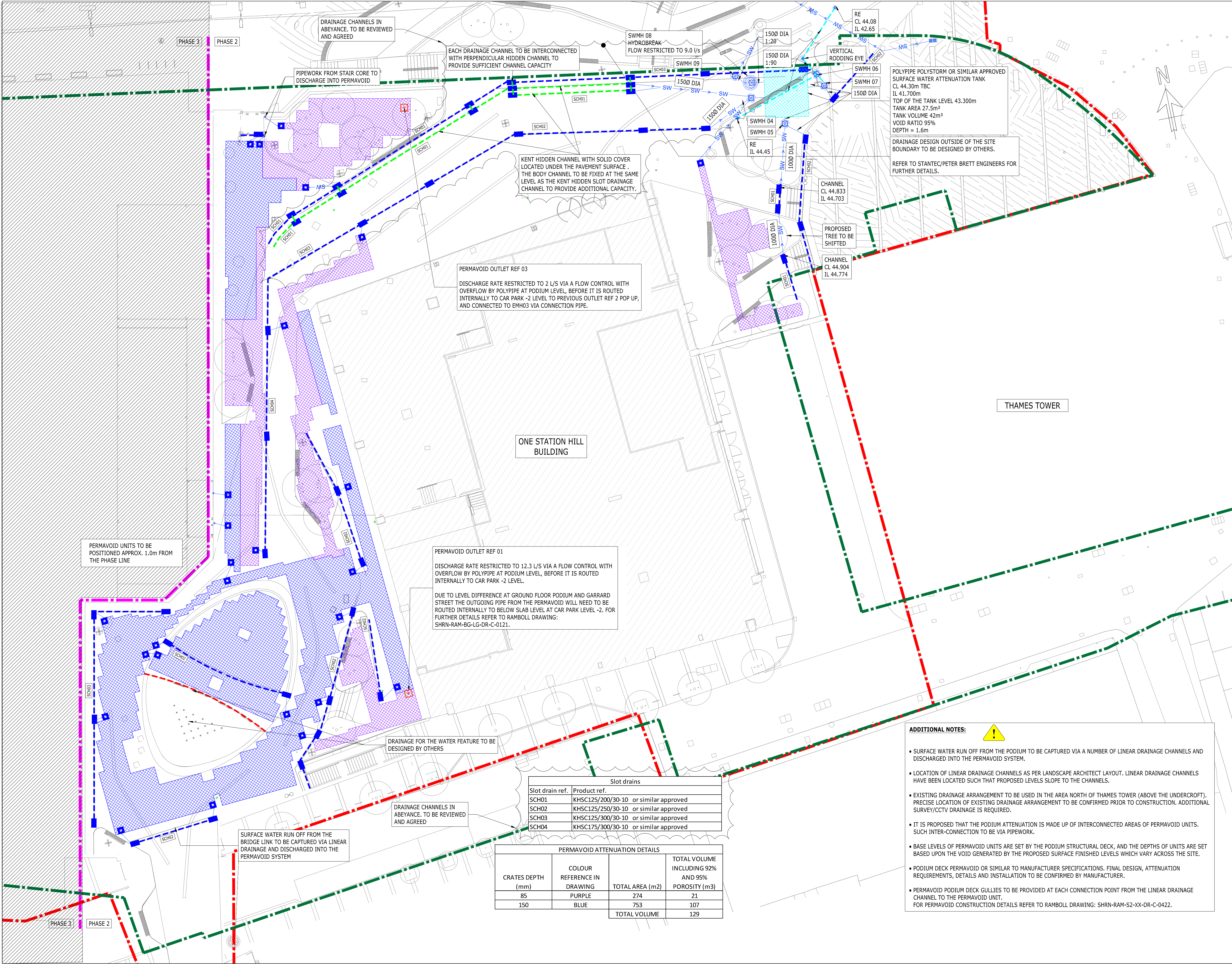
STATION HILL NORTH READING



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NORTH SITE PHASE 2
PROPOSED SURFACE WATER
DRAINAGE LAYOUT
GROUND FLOOR - PODIUM

Project No:	Scale (@A1):	Drawn:	Date:
1620004716	1:200	MES	NOV 2019
Drawing No:	Rev:		
SHRN-RAM-S2-00-DR-C-0120	T02		



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 - THIS DRAWING IS BASED ON,
 - LANDSCAPE ARCHITECT, LDA DRAWING: 'SHRN-LDA-S2-ZZ-PL-L-100-101' REVISION C03, DATED ON 24.10.2022 DRAFT
 - CRITL PERMAVOID CONSTRAINTS PLAN DIAGRAM DRAWING: SHRN-CRL-S2-00-DR- SK- 8001
 - CRITL LEVEL-0 PLAN DRAWING : SHRN-CRL-S2-P2-DR-A-1360,
 - GENSLER LOWER GROUND LAYOUT: SHRN-GEN-BG-P2-DR-A-0108, REVISION C01, DATED 04.02.2022.
 - HOARE LEA ENGINEER DRAWINGS: SHRN-HL-PN-00-DR-P-520-0005 AND SHRN-HL-PN-00-GA-P-520-0006, REVISION T01 DATED 05.06.2020.

- KEY:
- SITE OWNERSHIP BOUNDARY
 - SITE BOUNDARY
 - PHASES LINE
 - EXISTING THAMES WATER SEWER
 - PROPOSED SURFACE WATER PIPE
 - PERFORATED DRAINAGE PIPE
 - LINEAR DRAINAGE CHANNEL
 - LINEAR DRAINAGE HIDDEN CHANNEL
 - LINEAR DRAINAGE CHANNEL FOR WATER FUTURE DESIGNED BY OTHERS
 - + RAIN WATER POINT
 - + SUB-BASE DRAINAGE DOWN POINT CONNECTED TO BELOW SLAB FOUL WATER DRAINAGE
 - + PERMAVOID PODIUM DIFFUSER CHAMBER
 - + PERMAVOID PODIUM OUTLET
 - + SURFACE WATER MANHOLE/PPIC
 - + RODDING EYE
 - + ONE STATION HILL
 - + PERMAVOID CRATES, 85mm THICKNESS
 - + PERMAVOID CRATES, 150mm THICKNESS
 - + BELOW GROUND ATTENUATION TANK
 - + RECESSED ACCESS BOX FOR DRAINAGE CHANNELS

C06	PERMAVOID LAYOUT UPDATED	26.01 2024	EN	MN
C05	UPDATED TO CONTRACTOR COMMENTS	30.08 2023	EN	MN
C04	UPDATED TO LANDSCAPE COORDINATION	31.07 2023	SS	MN
C03	UPDATED TO LANDSCAPE COORDINATION	13.03 2023	EN	MN
C02	SUBMITTED FOR CONSTRUCTION	01.08 2022	EN	SP
Rev	Description	Date	By	App

CONSTRUCTION

STATION HILL NORTH READING

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NORTH SITE PHASE 2
PROPOSED SURFACE WATER DRAINAGE LAYOUT
GROUND FLOOR - PODIUM

Project No:	Scale (@A1):	Drawn:	Date:
1620004716	1:200	MES	NOV 2019
Drawing No:		Rev:	
SHRN-RAM-S2-00-DR-C-0120			C06

- ADDITIONAL NOTES:
- SURFACE WATER RUN OFF FROM THE PODIUM TO BE CAPTURED VIA A NUMBER OF LINEAR DRAINAGE CHANNELS AND DISCHARGED INTO THE PERMAVOID SYSTEM.
 - LOCATION OF LINEAR DRAINAGE CHANNELS AS PER LANDSCAPE ARCHITECT LAYOUT. LINEAR DRAINAGE CHANNELS HAVE BEEN LOCATED SUCH THAT PROPOSED LEVELS SLOPE TO THE CHANNELS.
 - EXISTING DRAINAGE ARRANGEMENT TO BE USED IN THE AREA NORTH OF THAMES TOWER (ABOVE THE UNDERCROFT). PRECISE LOCATION OF EXISTING DRAINAGE ARRANGEMENT TO BE CONFIRMED PRIOR TO CONSTRUCTION. ADDITIONAL SURVEY/CCTV DRAINAGE IS REQUIRED.
 - IT IS PROPOSED THAT THE PODIUM ATTENUATION IS MADE UP OF INTERCONNECTED AREAS OF PERMAVOID UNITS. SUCH INTER-CONNECTION TO BE VIA PIPEWORK.
 - BASE LEVELS OF PERMAVOID UNITS ARE SET BY THE PODIUM STRUCTURAL DECK, AND THE DEPTHS OF UNITS ARE SET BASED UPON THE VOID GENERATED BY THE PROPOSED SURFACE FINISHED LEVELS WHICH VARY ACROSS THE SITE.
 - PODIUM DECK PERMAVOID OR SIMILAR TO MANUFACTURER SPECIFICATIONS. FINAL DESIGN, ATTENUATION REQUIREMENTS, DETAILS AND INSTALLATION TO BE CONFIRMED BY MANUFACTURER.
 - PERMAVOID PODIUM DECK GULLIES TO BE PROVIDED AT EACH CONNECTION POINT FROM THE LINEAR DRAINAGE CHANNEL TO THE PERMAVOID UNIT. FOR PERMAVOID CONSTRUCTION DETAILS REFER TO RAMBOLL DRAWING: SHRN-RAM-S2-XX-DR-C-0422.

Slot drains			
Slot drain ref.	Product ref.		
SCH01	KHSC125/200/30-10	or similar approved	
SCH02	KHSC125/250/30-10	or similar approved	
SCH03	KHSC125/300/30-10	or similar approved	
SCH04	KHSC175/300/30-10	or similar approved	

PERMAVOID ATTENUATION DETAILS			
CRATES DEPTH (mm)	COLOUR REFERENCE IN DRAWING	TOTAL AREA (m2)	TOTAL VOLUME INCLUDING 92% AND 95% POROSITY (m3)
85	PURPLE	274	21
150	BLUE	753	107
		TOTAL VOLUME	129